

REMARKS

Claims 37-39 and 45 have been canceled. Claims 1 and 31 have been amended to clarify the scope of these claims. In claims 1 and 31, the limitation “a filter covering said housing” has been amended to specify “a filter attached to said housing”. The intended meaning of the filter covering the housing is that the filter is attached to the housing rather than the cavity of the cartridge. This embodiment of the present invention is described on page 9, lines 1-3 of the present application. Claims 1 and 31 have further been amended to clarify that the housing (containing the sensor) is coupled to the cartridge as described on page 8, lines 15-17 of the PCT application. Claims 32 and 42 have been amended to clarify that the filter of the housing is exposed to the flow of gases.

Claims 1, 17, 26-36, 42 and 46-51 were rejected under 35 U.S.C. §103 as allegedly being unpatentable over United States Patent No. 6,272,933 to Gradon in view of United States Patent No. 4,366,821 to Wittmaier et al. Reconsideration and withdrawal of the rejection is requested.

Neither Gradon nor Wittmaier disclose the arrangement of claims 1 and 31 wherein “a housing releasably containing said sensor, . . . a filter attached to said housing”. The filter and housing prevent contamination of the sensor so that the sensor may be reused between patients, while avoiding cross-contamination between the patients. The housing including filter can be disposed of appropriately (recycled), or the housing and filter can be sterilized for reuse. It is significantly easier to sterilize the housing and filter compared to sterilizing the delicate sensor device.

Applicants note the Examiner states it is possible to take sensors 34 and 35 of Gradon out of their housing. There is no such disclosure in Gradon. The Assignee of the present application

is the owner of United States Patent No. 6,272,933 to Gradon and the Assignee confirms that the sensor element 34, 35 cannot be released from their housings.

In Paragraphs 7 and 8 of the Final Office Action, the Examiner presents an extremely broad interpretation of claims 1 and 31. The Examiner has put forward an argument that the wording of claims 1 and 31 is intended to include a housing and sensor that may be released from the housing only by destroying the housing and/or sensor, the sensor otherwise not being releasable from the housing.

The Examiner bases this argument on the fact that the claim language does not explicitly state that the sensor must be functionally preserved. Applicants believe such a broad interpretation is clearly contrary to the plain meaning of the limitation. Clearly, the word “*releasable*” must mean the sensor can be released from the housing without damage to the sensor, otherwise the word releasable would be redundant in the claim.

The Examiner goes on to reference *In re Dulberg* and that the separation of elements where removability would be desirable, is a design consideration within the skill of the art. However, the present invention is not concerned with separating the elements of the prior art. The housing 25 is an additional element in the sensing device of the present invention when compared side-by-side with the prior art. The sensor 24 of the present invention is equivalent to the flow probe 19 of Gradon, which includes sensing means 34 and 35 and sensor housing means 32 and 33. The present invention relates to an additional housing that may, for example, releasably contain the flow probe 19 of Gradon. The additional housing could, for example, be coupled to the connector 42 of Gradon.

If the sensor were to be used in a first system providing humidified gases to a first patient, and a second system providing humidified gases to a second patient, the housing containing the sensor could be removed from the cartridge of the first system. The housing could be disposed of or set aside for sterilization and the sensor fitted to a new or previously used but sterilized housing before fitting into the cartridge of the second system. In this way, the present invention allows use of, for example, the sensor probe of Gradon, across a plurality of patients without cross-contamination.

Wittmaier also provides no disclosure of an additional housing 25 including filter in which a sensor may be releasably contained as described above.

Finally, the Examiner references one meaning for housing as given in *Webster's New World Dictionary*. Applicants refer the Examiner to another equally valid meaning for housing, that is, "*a rigid casing that encloses and protects any piece of moving or delicate equipment*" as defined in the *New Shorter Oxford English Dictionary*. A similar meaning may also be found in the Examiner's preferred *Webster's New World Dictionary* which the Examiner appears to have overlooked - see meaning number 6 of the copy of page 655 the Examiner provided with the Office Action.

As neither Gradon nor Wittmaier include a housing equivalent to the housing defined in the claims, Applicant submits that claims 1 and 31 are not rendered obvious. Reconsideration and allowance of claims 1 and 31 is requested.

Claims 17, 26-30, 32-36, 42 and 46-51 are dependent upon one of claims 1 or 31 which Applicants submit are allowable. Therefore, Applicants submit that claims 17, 26-30, 32-36, 42 and 46-51 are allowable. Reconsideration and allowance of claims 1 and 31 is requested.

The Examiner has further highlighted United States Patent No. 6,039,696 to Bell. In Bell, the membrane 18 is attached to the adapter 12 which is equivalent to the cartridge 11 of the present application. There is no disclosure of a sensor releasably contained in a housing including a filter attached to the housing, the housing being coupled to the adapter 12.

Replacement sheets for Figures 1, 9 and 10 are attached to overcome the Examiner's objection to the drawings. No new matter has been included. Entry is requested.

Applicants have concurrently submitted a Request for Continued Examination with this Amendment.

Should the Examiner have any questions regarding this Amendment, the Examiner is invited to contact one of the undersigned attorneys at (312) 704-1890.

Respectfully submitted,

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house /haʊs/ *n.* 1 A place in a secure or sheltered position. M18. 4 Fix (a piece of wood, socket, joint, or mortise). M19.
household /'haʊshəʊld/ *n.* & *a.* LME. [f. *HOUSE* *n.* + *HOLD* *n.*] A *n.* 1 collect. The people living in a house, esp. a family in a house; a domestic establishment. LME. †2 The maintaining of a house or family; housekeeping. LME-L16. †3 collect. The contents of a house; household goods and furniture. LME-E18.
 1 V. GLAMMINGHAM The Fairfield household moved back to London. E. FEINSTEIN After his second wife's death, the household of Professor Tsvetayev split up. The Household spec. the royal household.
 -*B* attrib. or as *adj.* 1 Of or pertaining to a household; domestic. LME. 2 Intimate, homely. arch. LME.
 2 L. STARR Good plain household judgment.
Special collocations & comb. household appliance a piece of equipment used in the house. household book a book for the keeping of household accounts. household bread *hist.* bread of an ordinary quality for household use. household effects the movable contents of a house. household franchise *hist.* the right of voting in elections consequent on being a household. household gods (a) gods presiding over a household, esp. (Rom. *hist.*) the lares and penates; (b) the essentials of home life. household management the management of domestic affairs, esp. as a subject of study. household name a well-known name. household science (chiefly *N. Amer.*) the study of household management, domestic science, household stuff arch. = household effects above. household troops (in Britain) troops nominally employed to guard the monarch. household word a well-known name or saying.
 householdry *n.* (arch.) management of a household, housekeeping L16.
householder /'haʊshəʊldə/ *n.* LME. [f. *HOUSE* *n.* + *HOLDER* *n.*] A person who owns or rents a house, flat, etc., as his or her own dwelling (*hist.* with a type of occupancy bringing entitlement to the franchise); a head of a household or family.
 householdership *n.* E19.
householding /'haʊshəʊldɪŋ/ *n.* Now rare. LME. [f. *HOUSE* *n.* + *HOLDING* *n.*] (Formerly) management or (later) occupancy of a house.
housekeep /'haʊskɪp/ *v.* *colloq.* Pa. t. & pple -kept /-kept/. M19. [Back-form. f. next or *HOUSEKEEPING* *n.* Cf. earlier *HOUSEKEEPING* *n.* 1.] Act as a housekeeper (*for*); keep house.
housekeeper /'haʊskɪpə/ *n.* LME. [f. *HOUSE* *n.* + *KEEPER* *n.*] †1 = *HOUSEHOLDER*. LME-M19. †2 With qualifying *adj.*: a good etc. person in offering hospitality. M16-E18. 3 A person in charge of a house, office, etc.; a

caretaker. M16. †b A guard dog. Only in L17. 4 spec. A person, esp. a woman, who manages the affairs of a household (in a large establishment usu. including supervision of any female servants) or (now) the cleaning of a hotel etc.; (with qualifying *adj.*) a good etc. person at managing household affairs. Formerly also, a person engaged in a domestic occupation. L16. 5 A person who keeps to the house, or stays at home. rare. E18.
housekeeping /'haʊskɪpɪŋ/ *n.* M16. [f. *HOUSE* *n.* + *KEEPING* *n.*] 1 Maintenance of a household, keeping a house; management of household affairs, *transf.* management of an organization's finances etc. M16. †2 Hospitality. *Usu.* w. qualifying *adj.* M16-M19. 3 Money set aside or given for housekeeping expenses, housekeeping money. *colloq.* M20. 4 Those operations of a computer, an organization, etc., which make its work possible but do not directly constitute its performance, e.g. maintenance and record-keeping. M20.
 1 C. ONETTS We've set up housekeeping together, Joe. *Abingdon Herald* The Vale's financial strategy, based on continued good housekeeping and further capital investment. 3 J. PORTER If I ask you for a bit more housekeeping, that's a different story.
Comb. (see also *HOUSEKEEPING* *a.* 2): housekeeping allowance, money: set aside or given for housekeeping expenses.
housekeeping /'haʊskɪpɪŋ/ *a.* M16. [Sense 1 f. *HOUSE* *n.* + *keeping* *pres. pple* of *KEEP* *v.*; sense 2 the *n.* used attrib.] 1 That keeps a house or maintains a household. Now rare. M16. 2 Designating holiday or rented accommodation providing equipment for housekeeping; self-catering. *N. Amer.* M20.
housekept *v.* pa. t. & pple of *HOUSEKEEP*.
house /'haʊz/ *n.* & *v.* obs. exc. *hist.* [OE *hūs* (whence ON *húsi*) = Goth. *huns* sacrifice, offering: ult. origin unkn.] A *n.* (The administration or receiving of) the Eucharist. OE. B *v.t.* Infl. -il-, -il-. Administer the Eucharist to; in *pass.* receive the Eucharist. OE. *house* *ing* *n.* & *a.* (a) *n.* the action of the vb; (b) *adj.* (attrib.) used at the celebration of the Eucharist. OE.
houseless /'haʊslɪs/ *a.* LME. [f. *HOUSE* *n.* + -less.] Without a house; homeless.
 houselessness *n.* M19.
housemaid /'haʊsmɛɪd/ *n.* & *v.* L17. [f. *HOUSE* *n.* + *MAID* *n.*] A *n.* A female domestic servant, esp. one in charge of reception rooms and bedrooms. L17.
 housemaid's closet, cupboard: where cleaning materials are kept. housemaid's knee swelling of the bursa in front of the kneecap, often the result of frequent kneeling.
 B *v.t.* Look after in the manner of a housemaid; put in order. M19.
 P. DEVLIN One of his [the trial judge's] jobs is to housemaid the case... To get the evidence as clean and tidy as he can.
houseman /'haʊsmən/ *n.* Pl. -men. L18. [f. *HOUSE* *n.* + *MAN* *n.*] 1 A married labourer on a Norwegian farm. rare. L18. 2 (H-) A member of Christ Church, Oxford ('the House'). M19. 3 A man responsible for general duties in a house, hotel, etc. M19. 4 A house physician or house surgeon, in Britain now usu. a qualified junior doctor working under supervision in a hospital before being fully registered as an independent medical practitioner. M20.
 housemanship *n.* the position of being a houseman in a hospital M20.
house-train /'haʊstreɪn/ *v.t.* E20. [f. *HOUSE* *n.* + *TRAIN* *v.*] Train (a domestic animal, an infant) to be clean in the house, teach where to urinate and defecate; *colloq.* teach good manners or tidiness to. *Usu.* in *pass.*
housewife /'haʊswaɪf/ *n.* *in sense 3 & dial.* 'haɪz/ *n.* Pl. -wives /-waɪvz/. Also (now only in sense 3) *hussive* /'hʌzɪv/; (esp. in sense 2) †*huswife*. M16. [f. *HOUSE* *n.* + *WIFE* *n.* See also *HUSSY*.] 1 A (married) woman who looks after the domestic affairs of her household, esp. as her principal occupation; (with qualifying *adj.*) a good etc. domestic manager. M16. †2 = *HUSSY* 3.

M16-E18. 3 A small case for sewing equipment. M18.
 housewifely *n.* (chiefly *Sc. & north.*) housewifery M18. housewifish *a.* housewifely M19.
housewife /'haʊswaɪf/ *v.* Now rare. M16. [f. the *n.*] 1 *v.t.* & *t.* (w. *it*). Be a (good) housewife; manage a household, esp. skilfully and economically. M16. 2 *v.t.* Manage as a (good) housewife, skilfully and economically. M17.
 2 DEFOR I must housewife the money.
housewifely /'haʊswaɪfɪ/ *a.* LME. [f. as *prec.* + -ly.] Pertaining to or characteristic of a (good) housewife; skilful and economical in managing household affairs.
 housewifeliness *n.* M16.
housewifery /'haʊswaɪfəri/ *n.* LME. [f. as *prec.* + -ry.] 1 (Skill in) household management, housecraft; housekeeping. LME. †b Thrift, economy. M17-L18. †2 collect. Articles of household use. M16-E19.
housewives *n.* pl. of *HOUSEWIFE* *n.*
housey /'haʊsi/ *n.* *colloq.* Also *housie*. M20. [Abbrev. of next.] = *HOUSE* *n.* 11.
housey-housey /'haʊsi'haʊsi/ *n.* Also *housie-housie*. M20. [f. *HOUSE* *n.* + -y.] = *HOUSE* *n.* 11.
housie(-housie) *ns.* vars. of *HOUSE(-HOUSEY)*.
housing /'haʊzɪŋ/ *n.* M16. [f. *HOUSE* *n.* or *v.* + -ing.] 1 Shelter (like that of a house); lodging. M16. 2 Property consisting of houses; houses or buildings, collectively; spec. outbuildings attached to a house. LME. b A house; a building. Long rare. LME. 3 *Archit.* A canopied niche for a statue or other image. Long obs. exc. *hist.* LME. 4 *Naut.* A covering or roofing for a ship. E19. 5 *Carpentry.* A recess or groove in one piece of timber etc. for another to fit into. E19. 6 A massive metal frame or pillar that supports one end of a set of rolls in a rolling-mill. M19. 7 A structure that supports and encloses the bearings at the end of an axle or shaft, a journal-box; a rigid casing that encloses and protects any piece of moving or delicate equipment. L19.
 1 C. MAYHEW Their housing is nothing but a few mats tied about poles fastened in the earth. 2 J. KRANTZ I'll never accept the idea that public housing can't be beautiful.
 118 The action of *HOUSE* *v.*; esp. provision of houses. LME.
Comb. housing association an association aiming to provide housing at (relatively) low cost; housing development the act or process of planning and building a (large) group of houses; a housing estate; housing estate a residential area planned as a unit, and often having its own shops and other facilities; housing list a waiting-list for council houses; housing project: see PROJECT *n.* 6c; housing scheme a housing estate, esp. of council houses.
housing /'haʊzɪŋ/ *n.* LME. [f. *HOUSE* *n.* or *v.* + -ing.] A covering, esp. of cloth; spec. a covering put on a horse etc. for protection or ornament, trappings. *Freq.* in *pl.*
houstonia /'hʊstəʊniə/ *n.* E19. [mod.L (see below), f. William Houston, Sc. botanist (d. 1733): see -ia.] Any of various *N. American* plants of the former genus *Houstonia*, of the madder family, now included in the genus *Hedyotis*; esp. the bluet, *Hedyotis* (formerly *Houstonia*) *caerulea*.
houting /'haʊtɪŋ/ *n.* L19. [Du. f. MDu. *houtic*; of uncertain origin.] Either of two whitfish, valued in places for food, either (a) the rare anadromous form *Coregonus oxyrinchus*, of Baltic coasts and rivers, or (b) the variable freshwater form *Coregonus lavaretus*, which occurs in lakes of northern Europe and Asia. Cf. GWYNIAID, LAVARET, POWAN, SKELLY *n.* 1.
 †houve *n.* see HOO *n.* 1
houyhnhnm /'hɔɪnhnm/ *n.* E18. [The name (intended to suggest the neigh of a horse) of a fictional race of reasoning horses in Swift's *Gulliver's Travels*.] A horse considered as having human characteristics.
Hova /'hɔʊvə/ *n.* & *a.* M19. [Malagasy.] A *n.* Pl. -s, same. A member of the dominant people of the Malagasy Republic (formerly Madagascar); the dialect of Malagasy spoken by

a cat, or arm, e bed, or her, i slit, i cosy, i see, o hot, or saw, a run, o put, u too, o ago, at my, no how, or day, oo no, or hair, or near, or boy, oo poor, also tire, also sour